

REMARKS

I. INTRODUCTORY REMARKS

Applicants have carefully reviewed and considered the Office Action mailed August 18, 2009. Reconsideration is respectfully requested in view of the foregoing amendments and the comments set forth below.

By this Amendment, claim 10 is currently amended and claim 20 is newly added. No new matter is believed to be added. Accordingly, claims 10-20 are pending in the instant application. The Applicants thank the Examiner for the careful consideration of this application. Based on the following remarks, the Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

II. EXAMINER INTERVIEW

Applicants thank Examiner Smith for the personal interview of October 28, 2009. During the interview, Applicants' representative and the Examiner discussed the Applicants' claimed invention in relation to U.S. Patent No. 5,909,626 to Kobayashi (hereinafter "Kobayashi"). Further, Applicants' representative discussed claim 10, specifically the limitations disclosing the front side and the back side of the silicon substrate. The Examiner agreed that the language "the trench extends along the entire depth of the vertical power component" should overcome Kobayashi.

III. DRAWING OBJECTIONS UNDER 37 C.F.R. 1.83(A)

On page 2 of the Office Action, the drawings are objected to under 37. C.F.R. 1.83(a). The Office Action asserts that the drawings must show:

at least one second vertical power component extending from said front side to said back side of said silicon substrate, separated from said first vertical power component by a second trench filled with an insulation, said second trench extending from said front side to side back side of said silicon substrate, and wherein said at least one second vertical power component is designed approximately ring-shaped and/or disk-shaped and is arranged eccentrically or concentrically around said common point of reference on said silicon substrate.

Applicants respectfully submit that the “second vertical power component” and “second trench” are shown in Figure 3 and supported at least in, e.g., as recited in the Abstract, “at least one second vertical power component (10) between which is placed at least one trench (2) filled with an insulation (4).”

IV. CLAIM REJECTIONS UNDER 35 U.S.C. § 103(A)

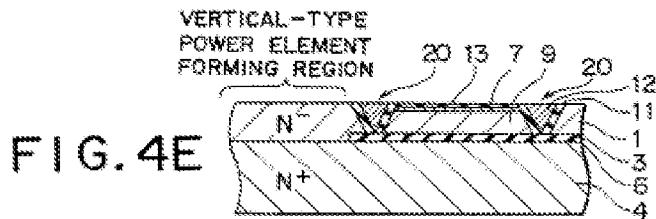
Claims 10-18 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,909,626 to Kobayashi in view of U.S. Patent No. 5,294,825 to Nakagawa et al. (hereinafter referred to as “Nakagawa”). Claim 10 is allowable as no reasonable combination of Kobayashi and Nakagawa teaches or suggests “wherein said at least one trench extends substantially along an entire depth of said at least one first vertical power component.”

As discussed above, Examiner Smith agreed on October 28, 2009, that “the trench extends along the entire depth of the vertical power component” should overcome Kobayashi. Applicant respectfully submits that “wherein said at least one trench extends substantially along an entire depth of said at least one first vertical power component” is substantially similar to the agreed upon language and should also overcome Kobayashi.

Kobayashi discloses a SOI (silicone on insulator) substrate for integrating a vertical power element and a SOI layer. The substrate is built up by a first (1) and a second (4) substrate which are firmly coupled and form a single composite substrate (col. 6, lines 59-67 or col. 7, lines 19-21). The vertical-type power element forming region (see Fig. 3E, 4E, 5E) extends over the single composite substrate.

Referring to Kobayashi, the Office Action aligns the “isolation groove” of Kobayashi with the claimed “trench extending from said front side to said back side of said silicon substrate.” However, Kobayashi does not teach or suggest “wherein said at least one trench extends substantially along an entire depth of said at least one first vertical power component,” as recited in amended claim 10. Instead, as seen in Fig. 4E of Kobayashi below, the “isolation groove” only extends along a portion of the vertical-type power element forming region in the first substrate (1) and not in the second substrate (4).

Therefore, Kobayashi does not teach or suggest “wherein said at least one trench extends substantially along an entire depth of said at least one first vertical power component,” as recited in amended claim 10.



The secondary reference to Nakagawa discloses active lateral components between isolation material. However, Nakagawa does not provide the claimed “wherein said at least one trench extends substantially along an entire depth of said at least one first vertical power component.” See, Nakagawa, FIGs. 1 and 2, item 11. Combining Kobayashi and Nakagawa does not lead to the semiconductor component according to the present invention as neither Kobayashi nor Nakagawa teach or suggest the above recited claim feature.

Thus, no reasonable combination of Kobayashi and Nakagawa could possibly teach or suggest “wherein said at least one trench extends substantially along an entire depth of said at least one first vertical power component.”

As claims 11-18 depend from claim 10, Applicants respectfully submit these claims are allowable for at least the reason noted with respect to independent claim 10.

Accordingly, it is submitted that independent claim 10 and dependent claims 11-18 are patentable over any combination of the prior art of record. Consequently, withdrawal of the rejection under 35 U.S.C. §103(a) and allowance of claims 10-18 is requested.

V. ALLOWABLE SUBJECT MATTER

In the Office Action on pages 4-5, the Examiner states that claim 19 is objected to and would be allowed if rewritten in independent form. Applicants thank the Examiner for the indication of allowable subject matter. The subject matter of allowable dependent claim 19 has been rewritten in independent form in newly added claim 20. Specifically, claim 20 recites the subject matter in previously pending claims 10 and 19. Thus, Applicants respectfully request that newly added claim 20 be allowed.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants, therefore, respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,

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